

# Work Order ID 89159

**\*89159\***

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August-21-12 3:06:15 PM

Item ID: D3463-041 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Step Weldment Assembly  
 Start Date: 8/21/12 Start Qty: 2.00 **\*2\*** Cust Item ID:  
 Required Date: 8/21/12 Req'd Qty: 2.00 **\*2\*** Customer:  
 Reference:

Approvals: Process Plan: *[Signature]* Date: *12-08-23* Tooling: Date: Run Start **\*NR1\***  
 QC: Date: SPC (Y/N): Date: Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

| Draw Nbr | Revision Nbr |
|----------|--------------|
| D3463    | Rev B        |

|              |   |      |  |  |  |  |  |  |  |
|--------------|---|------|--|--|--|--|--|--|--|
| 100          | Large Fab                                   | 0.00 |  |  |  |  |  |  |  |
| <b>*100*</b> |   |      |  |  |  |  |  |  |  |
| Large Fab    | Memo  | 0.00 |  |  |  |  |  |  |  |
| Large Fab    | Weld assembly as per dwg D3463 using DT8875 |      |  |  |  |  |  |  |  |

|                 |  |      |  |  |  |  |  |  |  |
|-----------------|--|------|--|--|--|--|--|--|--|
| 110             | QC9- Inspect visual per QSI004- Fusion Welds | 0.00 |  |  |  |  |  |  |  |
| <b>*110*</b>    |  |      |  |  |  |  |  |  |  |
| QC              | Memo   | 0.00 |  |  |  |  |  |  |  |
| Quality Control |  |      |  |  |  |  |  |  |  |

|                 |   |      |  |  |  |  |  |  |  |
|-----------------|---|------|--|--|--|--|--|--|--|
| 120             | QC5- Inspect part completeness to step on W/O | 0.00 |  |  |  |  |  |  |  |
| <b>*120*</b>    |   |      |  |  |  |  |  |  |  |
| QC              | Memo  | 0.00 |  |  |  |  |  |  |  |
| Quality Control |   |      |  |  |  |  |  |  |  |

*2 12-12-20*

*2 12-12-21* *DAS 09 23*

*2 12-12-21* *DAS 09 23*

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

|   |      |      |   |   |                      |   |                |              |   |  |  |
|---|------|------|---|---|----------------------|---|----------------|--------------|---|--|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____  |      |      |   | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Work Order Update <input type="checkbox"/> |                      | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |                |              |   |  |  |
| <b>Root Cause</b>   | Date | Step | Qty   | Description of work order update<br>or Non-conformance  | Initial<br>Chief Eng | Action<br>Description   | Sign &<br>Date | Verification | QC Inspector  |  |  |
| Doc/Data <input type="checkbox"/>   |      |      |   |   |                      |   |                |              |   |  |  |
| Equip/Tooling <input type="checkbox"/>  |      |      |   |   |                      |   |                |              |   |  |  |
| Operator <input type="checkbox"/>   |      |      |   |   |                      |   |                |              |   |  |  |
| Material <input type="checkbox"/>   |      |      |   |   |                      |   |                |              |   |  |  |
| Setup <input type="checkbox"/>  |      |      |   |   |                      |   |                |              |   |  |  |
| Other <input type="checkbox"/>  |      |      |   |   |                      |   |                |              |   |  |  |
| Process <input type="checkbox"/>  |      |      |   |   |                      |   |                |              |   |  |  |
| Supplier <input type="checkbox"/>   |      |      |   |   |                      |   |                |              |   |  |  |
| Training <input type="checkbox"/>   |      |      |   |   |                      |   |                |              |   |  |  |
| Unapproved <input type="checkbox"/>   |      |      |   |   |                      |   |                |              |   |  |  |
| <b>FAULT CATEGORY</b>   |      |      |   |   |                      |   |                |              |   |  |  |
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube |      |      | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio |   |                      | <input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions   |                |              | <input type="checkbox"/> Ovalized<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge<br><br><input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled<br><br><input type="checkbox"/> Other |  |  |

# Work Order ID 89159

\*89159\*

Page 2

August-21-12 3:06:15 PM

Item ID: D3463-041 Accept \*N900040100\* Setup Start \*NS1\*  
Revision ID: Stop \*NS2\*  
Item Name: Step Weldment Assembly  
Start Date: 8/21/12 Start Qty: 2.00 \*2\* Cust Item ID:  
Required Date: 8/21/12 Req'd Qty: 2.00 \*2\* Customer:  
Reference:

Approvals: Process Plan: Date: Tooling: Date: Run Start \*NR1\*  
QC: Date: SPC (Y/N): Date: Stop \*NR2\*

| Sequence ID/<br>Work Center ID               | Operation<br>Description   | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number   | Insp.<br>Stamp |
|--|--|----------------------|---------|--------|--------------|---------------|---------------|--------------------|----------------|
| 130<br>*130*<br>Powdercoat<br>Powder Coating | White Gloss(Ref:4.3.5.2) per QSI005 4.3-Steel<br><i>m123383</i><br>Memo<br>1- Mask areas indicated on dwg D3463 (holes, threads)<br>START TIME: <i>8:10</i><br>OVEN TEMPERATURE: <i>450°</i><br>FINISH TIME: <i>9:10</i> | 0.00<br>0.00         |         |        |              | <i>2</i>      | <i>0</i>      | <i>BL 13-1-4</i>   |                |
| 140<br>*140*<br>HandFinish<br>Hand Finishing | Wing Walk as per dwg QSI005 4.4 Batch <i>122589</i><br>Memo  | 0.00<br>0.00         |         |        |              | <i>2</i>      | <i>d</i>      | <i>BL 13-1-4</i>   |                |
| 150<br>*150*<br>QC<br>Quality Control        | QC3- Inspect Part Finish<br>Memo   | 0.00<br>0.00         |         |        |              | <i>2x</i>     | <i>d</i>      | <i>HL 13/01/12</i> |                |

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

|  |      |      |     |   |                      |   |                |              |              |  |  |
|--|------|------|-----|---|----------------------|---|----------------|--------------|--------------|--|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ |      |      |     | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Work Order Update <input type="checkbox"/> |                      | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |                |              |              |  |  |
| <b>Root Cause</b>  | Date | Step | Qty | Description of work order update<br>or Non-conformance  | Initial<br>Chief Eng | Action<br>Description   | Sign &<br>Date | Verification | QC Inspector |  |  |
| Doc/Data <input type="checkbox"/>                            |      |      |     |   |                      |   |                |              |              |  |  |
| <input type="checkbox"/>                                     |      |      |     |   |                      |   |                |              |              |  |  |
| Equip/Tooling <input type="checkbox"/>                       |      |      |     |   |                      |   |                |              |              |  |  |
| <input type="checkbox"/>                                     |      |      |     |   |                      |   |                |              |              |  |  |
| Operator <input type="checkbox"/>                            |      |      |     |   |                      |   |                |              |              |  |  |
| <input type="checkbox"/>                                     |      |      |     |   |                      |   |                |              |              |  |  |
| Material <input type="checkbox"/>                            |      |      |     |   |                      |   |                |              |              |  |  |
| <input type="checkbox"/>                                     |      |      |     |   |                      |   |                |              |              |  |  |
| Setup <input type="checkbox"/>                               |      |      |     |   |                      |   |                |              |              |  |  |
| <input type="checkbox"/>                                     |      |      |     |   |                      |   |                |              |              |  |  |
| Other <input type="checkbox"/>                               |      |      |     |   |                      |   |                |              |              |  |  |
| <input type="checkbox"/>                                     |      |      |     |   |                      |   |                |              |              |  |  |
| Process <input type="checkbox"/>                             |      |      |     |   |                      |   |                |              |              |  |  |
| <input type="checkbox"/>                                     |      |      |     |   |                      |   |                |              |              |  |  |
| Supplier <input type="checkbox"/>                            |      |      |     |   |                      |   |                |              |              |  |  |
| <input type="checkbox"/>                                     |      |      |     |   |                      |   |                |              |              |  |  |
| Training <input type="checkbox"/>                            |      |      |     |   |                      |   |                |              |              |  |  |
| <input type="checkbox"/>                                     |      |      |     |   |                      |   |                |              |              |  |  |
| Unapproved <input type="checkbox"/>                          |      |      |     |   |                      |   |                |              |              |  |  |

| FAULT CATEGORY  |  |  |   |  |  |   |  |  |  |  |   |
|---|--|--|---|--|--|---|--|--|--|--|---|
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube |  |  | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio |  |  | <input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions |  |  | <input type="checkbox"/> Ovalized<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge |  | <input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled<br><br><input type="checkbox"/> Other |

# Work Order ID 89159

\*89159\*

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August-21-12 3:06:15 PM

Item ID: D3463-041 Accept \*N900040100\* Setup Start \*NS1\*  
 Revision ID: Stop \*NS2\*  
 Item Name: Step Weldment Assembly  
 Start Date: 8/21/12 Start Qty: 2.00 \*2\* Cust Item ID:  
 Required Date: 8/21/12 Req'd Qty: 2.00 \*2\* Customer:  
 Reference:

Approvals: Process Plan: Date: Tooling: Date: Run Start \*NR1\*  
 QC: Date: SPC (Y/N): Date: Stop \*NR2\*

| Sequence ID/<br>Work Center ID | Operation<br>Description                          | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|---|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 160                            | Identify as per dwg & Stock Location: <i>485A</i> | 0.00                 |         |        |              |               |               |                  |                |
| *160*                          |   |                      |         |        |              |               |               |                  |                |
| Packaging                      | Memo  | 0.00                 |         |        |              |               |               |                  |                |
| Packaging                      |   |                      |         |        |              |               |               |                  |                |
| 170                            | QC21- Final Inspection - Work Order Release       | 0.00                 |         |        |              |               |               |                  |                |
| *170*                          |   |                      |         |        |              |               |               |                  |                |
| QC                             | Memo  | 0.00                 |         |        |              |               |               |                  |                |
| Quality Control                |   |                      |         |        |              |               |               |                  |                |

*u 13.01.01*

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

|   |      |      |   |   |                      |   |                |              |   |  |   |  |
|---|------|------|---|---|----------------------|---|----------------|--------------|---|--|---|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____  |      |      |   | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Work Order Update <input type="checkbox"/> |                      | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |                |              |   |  |   |  |
| <b>Root Cause</b>   | Date | Step | Qty   | Description of work order update<br>or Non-conformance  | Initial<br>Chief Eng | Action<br>Description   | Sign &<br>Date | Verification | QC Inspector  |  |   |  |
| Doc/Data <input type="checkbox"/>   |      |      |   |   |                      |   |                |              |   |  |   |  |
| Equip/Tooling <input type="checkbox"/>  |      |      |   |   |                      |   |                |              |   |  |   |  |
| Operator <input type="checkbox"/>   |      |      |   |   |                      |   |                |              |   |  |   |  |
| Material <input type="checkbox"/>   |      |      |   |   |                      |   |                |              |   |  |   |  |
| Setup <input type="checkbox"/>  |      |      |   |   |                      |   |                |              |   |  |   |  |
| Other <input type="checkbox"/>  |      |      |   |   |                      |   |                |              |   |  |   |  |
| Process <input type="checkbox"/>  |      |      |   |   |                      |   |                |              |   |  |   |  |
| Supplier <input type="checkbox"/>   |      |      |   |   |                      |   |                |              |   |  |   |  |
| Training <input type="checkbox"/>   |      |      |   |   |                      |   |                |              |   |  |   |  |
| Unapproved <input type="checkbox"/>   |      |      |   |   |                      |   |                |              |   |  |   |  |
| <b>FAULT CATEGORY</b>   |      |      |   |   |                      |   |                |              |   |  |   |  |
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube |      |      | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio |   |                      | <input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions   |                |              | <input type="checkbox"/> Ovalized<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge<br><hr/> <hr/> <hr/> |  | <input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled<br><input type="checkbox"/> Other |  |

# Picklist Print

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Page 1

Work Order ID: 89159

Parent Item: D3463-041

Parent Item Name: Step Weldment Assembly

Start Date: 8/21/12

Required Date: 8/21/12

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP REV. A 05.11.18 new issue EC IPP revB: replace pressure with wing walk DD  
10.01.28 verified by:EC

| Component Item ID/<br>Item Name | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
| 238-806<br>SS DOWEL PIN 1" LONG |                        | Purchased     | No          |                     |                  | 100             | Each               | 110.0000       | 2           | 4            |               | 12-12-20       |        |

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| ST399    | 10      |          |
| 117606   | 10      |          |
| ST400    | 100     |          |
| 120119   | 100     |          |

D3453-3  
Clevis

Manufactured No 100 Each 25.0000 1

12-12-20

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| WA       | 20      |          |
| 83437    | 20      |          |
| WA022    | 5       |          |
| 78209    | 5       |          |

D3453-5  
Plug

Manufactured No 100 Each 24.0000 1

12-12-20

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| WA       | 24      |          |
| 59204    | 0       |          |
| 83438    | 24      |          |

D3463-1  
Arm

Manufactured No 100 Each 7.0000 1

12-12-20

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| LG       | 5       |          |
| 83439    | 5       |          |
| WA       | 2       |          |
| 82313    | 2       |          |

86866 x2

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

|  |   |   |                                      |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
|--|---|---|--------------------------------------|------------------------------------|------------------------------------|--------------------------------------|------------------------------------|------------------------------------|--|----------------------------------|--|------------------------------------|--|--------------------------------|------------------------------------|------------------------------------|-----------------------------------|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Work Order Update <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table> | Skid-tube <input type="checkbox"/>   | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/> | Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/> | Quality <input type="checkbox"/> | Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> |  |
| Skid-tube <input type="checkbox"/>                           | Crosstube <input type="checkbox"/>  | Water Jet <input type="checkbox"/>  | Engineering <input type="checkbox"/> |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
| Machining <input type="checkbox"/>                           | Small Fab <input type="checkbox"/>  | Prod. Eng. Coord. <input type="checkbox"/>  | Quality <input type="checkbox"/>     |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
| Thermoforming <input type="checkbox"/>                       | Finishing <input type="checkbox"/>  | Rec/Store/Packaging <input type="checkbox"/>  | Other <input type="checkbox"/>       |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
| Large Fab <input type="checkbox"/>                           | Composite <input type="checkbox"/>  | Supplier <input type="checkbox"/>   |                                      |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |

| Root Cause                             | Date | Step | Qty | Description of work order update or Non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|--|------|------|-----|---|-------------------|--------------------|-------------|--------------|--------------|
| Doc/Data <input type="checkbox"/>      |      |      |     |   |                   |                    |             |              |              |
| Equip/Tooling <input type="checkbox"/> |      |      |     |   |                   |                    |             |              |              |
| Operator <input type="checkbox"/>      |      |      |     |   |                   |                    |             |              |              |
| Material <input type="checkbox"/>      |      |      |     |   |                   |                    |             |              |              |
| Setup <input type="checkbox"/>         |      |      |     |   |                   |                    |             |              |              |
| Other <input type="checkbox"/>         |      |      |     |   |                   |                    |             |              |              |
| Process <input type="checkbox"/>       |      |      |     |   |                   |                    |             |              |              |
| Supplier <input type="checkbox"/>      |      |      |     |   |                   |                    |             |              |              |
| Training <input type="checkbox"/>      |      |      |     |   |                   |                    |             |              |              |
| Unapproved <input type="checkbox"/>    |      |      |     |   |                   |                    |             |              |              |

**FAULT CATEGORY**

| Landing Gear  | General                                 | Other  |
|---|---|--|
| <input type="checkbox"/> Bending                      | <input type="checkbox"/> Bend           | <input type="checkbox"/> Grain                           |
| <input type="checkbox"/> Centre Not Concentric to O/S | <input type="checkbox"/> BOM/Route      | <input type="checkbox"/> Hardware                        |
| <input type="checkbox"/> Cracks                       | <input type="checkbox"/> Broken/Damaged | <input type="checkbox"/> Inspection Incomplete           |
| <input type="checkbox"/> Crushed/Crimped              | <input type="checkbox"/> Burrs          | <input type="checkbox"/> Instructions Incomplete/Unclear |
| <input type="checkbox"/> Cuffs                        | <input type="checkbox"/> Contamination  | <input type="checkbox"/> Maintenance                     |
| <input type="checkbox"/> Heat Treat                   | <input type="checkbox"/> Countersink    | <input type="checkbox"/> Misabeled                       |
| <input type="checkbox"/> Inspection Strip in Tube     | <input type="checkbox"/> Cut Too Short  | <input type="checkbox"/> Misread                         |
| <input type="checkbox"/> Ripples in Bend              | <input type="checkbox"/> Drill Holes    | <input type="checkbox"/> Offset                          |
| <input type="checkbox"/> Torque Waves in Extrusion    | <input type="checkbox"/> Drawing        | <input type="checkbox"/> Out of Calibration              |
| <input type="checkbox"/> Turning Sequence             | <input type="checkbox"/> Finish         | <input type="checkbox"/> Out of Sequence                 |
| <input type="checkbox"/> Wave/Twist in Tube           | <input type="checkbox"/> Folio          | <input type="checkbox"/> Outside Dimensions              |
|   |   | <input type="checkbox"/> Ovalized                        |
|   |   | <input type="checkbox"/> Over/Under tolerance            |
|   |   | <input type="checkbox"/> Part Incorrect                  |
|   |   | <input type="checkbox"/> Part Lost/Missing               |
|   |   | <input type="checkbox"/> Part Moved                      |
|   |   | <input type="checkbox"/> Positioned Wrong                |
|   |   | <input type="checkbox"/> Power Loss/Surge                |
|   |   | <input type="checkbox"/> Pressure/Forced                 |
|   |   | <input type="checkbox"/> Temperature/Cure                |
|   |   | <input type="checkbox"/> Weld                            |
|   |   | <input type="checkbox"/> Wrong Stock Pulled              |
|   |   | <input type="checkbox"/> Other                           |



# Picklist Print

August-21-12 3:06:14 PM

Page 2

Work Order ID: 89159

Parent Item: D3463-041

Parent Item Name: Step Weldment Assembly

Start Date: 8/21/12

Required Date: 8/21/12

Start Qty: 2.00

Required Qty: 2.00

D3463-3 Manufactured No 100 Each 9.0000 1  
Step

FL 2 12-12-20

90852 x1

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| WA       | 20      |          |
| 78886    | 2       |          |
| 83440    | 6       |          |
| WA023    | -11     |          |
| 78212    | 1       |          |

D3463-5 Manufactured No 100 Each 27.0000 2  
End Cap

FL 4 12-12-20

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| WA023    | 27      |          |
| 78838    | 27      |          |

4

D3463-7 Manufactured No 100 Each 5.0000 1  
Drag Arm

FL 2 12-12-20

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| WA       | 13      |          |
| 82308    | 3       |          |
| WA025    | -8      |          |
| 78202    | 2       |          |

83441 x1  
90855 x1

August-21-12 3:06:15 PM

Shop Packet Print

Page 2

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

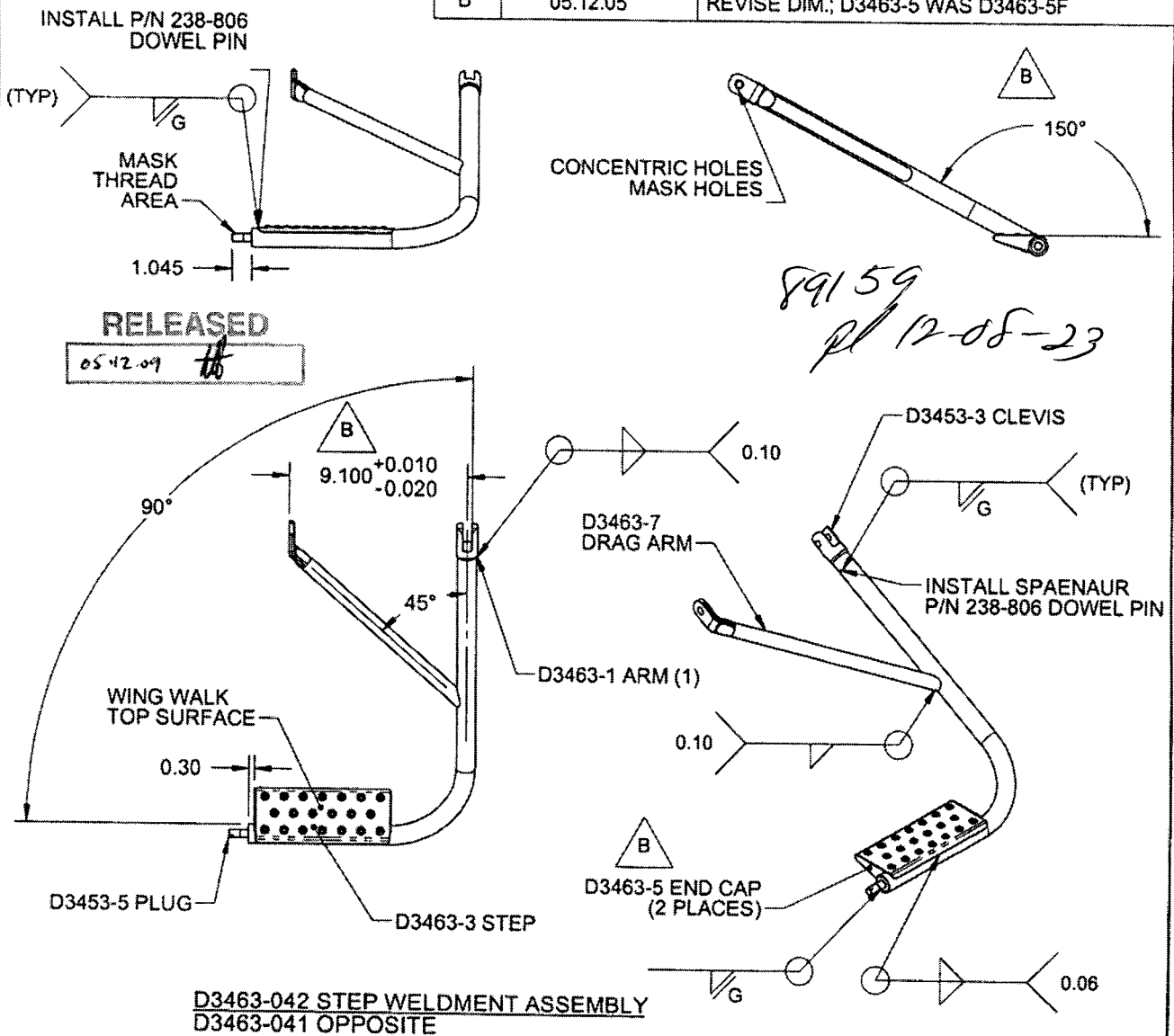
QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

|  |      |      |     |   |                      |   |                |              |              |  |  |
|--|------|------|-----|---|----------------------|---|----------------|--------------|--------------|--|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ |      |      |     | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Work Order Update <input type="checkbox"/> |                      | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |                |              |              |  |  |
| <b>Root Cause</b>  | Date | Step | Qty | Description of work order update<br>or Non-conformance  | Initial<br>Chief Eng | Action<br>Description   | Sign &<br>Date | Verification | QC Inspector |  |  |
| Doc/Data <input type="checkbox"/>                            |      |      |     |   |                      |   |                |              |              |  |  |
| Equip/Tooling <input type="checkbox"/>                       |      |      |     |   |                      |   |                |              |              |  |  |
| Operator <input type="checkbox"/>                            |      |      |     |   |                      |   |                |              |              |  |  |
| Material <input type="checkbox"/>                            |      |      |     |   |                      |   |                |              |              |  |  |
| Setup <input type="checkbox"/>                               |      |      |     |   |                      |   |                |              |              |  |  |
| Other <input type="checkbox"/>                               |      |      |     |   |                      |   |                |              |              |  |  |
| Process <input type="checkbox"/>                             |      |      |     |   |                      |   |                |              |              |  |  |
| Supplier <input type="checkbox"/>                            |      |      |     |   |                      |   |                |              |              |  |  |
| Training <input type="checkbox"/>                            |      |      |     |   |                      |   |                |              |              |  |  |
| Unapproved <input type="checkbox"/>                          |      |      |     |   |                      |   |                |              |              |  |  |

| FAULT CATEGORY  |   |  |   |   |  |  |  |  |  |
|---|---|--|---|---|--|--|--|--|--|
| <b>Landing Gear</b>                                   |   |  | <b>General</b>                                |   |  |  |  |  |  |
| <input type="checkbox"/> Bending                      | <input type="checkbox"/> Bend           | <input type="checkbox"/> Grain                           | <input type="checkbox"/> Ovalized             | <input type="checkbox"/> Pressure/Forced    |  |  |  |  |  |
| <input type="checkbox"/> Centre Not Concentric to O/S | <input type="checkbox"/> BOM/Route      | <input type="checkbox"/> Hardware                        | <input type="checkbox"/> Over/Under tolerance | <input type="checkbox"/> Temperature/Cure   |  |  |  |  |  |
| <input type="checkbox"/> Cracks                       | <input type="checkbox"/> Broken/Damaged | <input type="checkbox"/> Inspection Incomplete           | <input type="checkbox"/> Part Incorrect       | <input type="checkbox"/> Weld               |  |  |  |  |  |
| <input type="checkbox"/> Crushed/Crimped              | <input type="checkbox"/> Burrs          | <input type="checkbox"/> Instructions Incomplete/Unclear | <input type="checkbox"/> Part Lost/Missing    | <input type="checkbox"/> Wrong Stock Pulled |  |  |  |  |  |
| <input type="checkbox"/> Cuffs                        | <input type="checkbox"/> Contamination  | <input type="checkbox"/> Maintenance                     | <input type="checkbox"/> Part Moved           |   |  |  |  |  |  |
| <input type="checkbox"/> Heat Treat                   | <input type="checkbox"/> Countersink    | <input type="checkbox"/> Mislabeled                      | <input type="checkbox"/> Positioned Wrong     |   |  |  |  |  |  |
| <input type="checkbox"/> Inspection Strip in Tube     | <input type="checkbox"/> Cut Too Short  | <input type="checkbox"/> Misread                         | <input type="checkbox"/> Power Loss/Surge     | <input type="checkbox"/> Other              |  |  |  |  |  |
| <input type="checkbox"/> Ripples in Bend              | <input type="checkbox"/> Drill Holes    | <input type="checkbox"/> Offset                          |   |   |  |  |  |  |  |
| <input type="checkbox"/> Torque Waves in Extrusion    | <input type="checkbox"/> Drawing        | <input type="checkbox"/> Out of Calibration              |   |   |  |  |  |  |  |
| <input type="checkbox"/> Turning Sequence             | <input type="checkbox"/> Finish         | <input type="checkbox"/> Out of Sequence                 |   |   |  |  |  |  |  |
| <input type="checkbox"/> Wave/Twist in Tube           | <input type="checkbox"/> Folio          | <input type="checkbox"/> Outside Dimensions              |   |   |  |  |  |  |  |



|                         |                               |  |                        |
|-------------------------|-------------------------------|--|------------------------|
| DESIGN<br>RF            | DRAWN BY<br>RF                | <b>DART AEROSPACE LTD</b><br>HAWKESBURY, ONTARIO, CANADA |                        |
| CHECKED<br>#            | APPROVED<br>#                 | DRAWING NO.<br><b>D3463</b>                              | REV. B<br>SHEET 1 OF 4 |
| DATE<br><b>05.12.05</b> | TITLE<br><b>STEP WELDMENT</b> |  | SCALE<br>1:8           |
| A                       | 05.09.20                      | NEW ISSUE  |                        |
| B                       | 05.12.05                      | REVISE DIM.; D3463-5 WAS D3463-5F                        |                        |



#### NOTES:

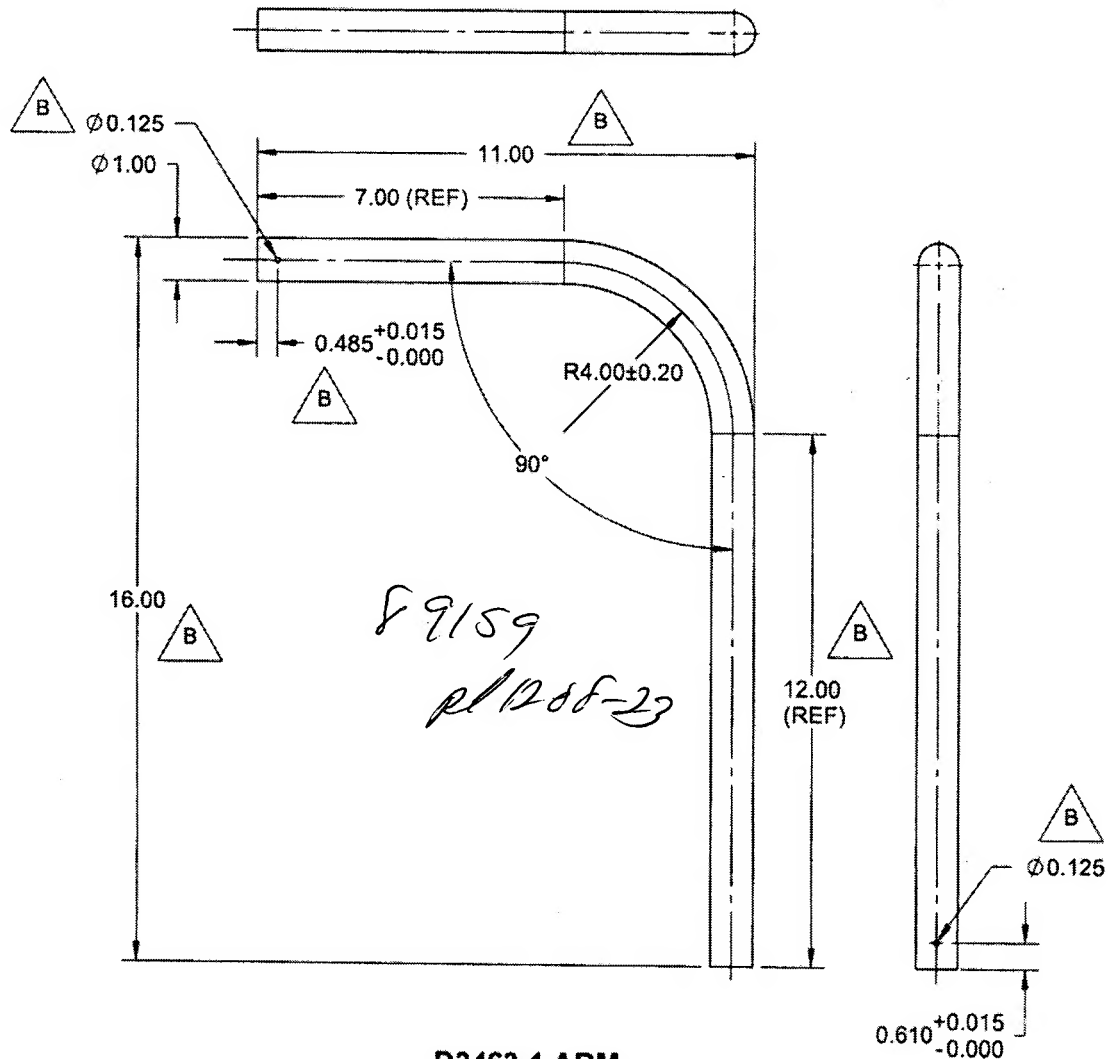
- 1) WELD PER DART QSI 004
- 2) FINISH: POWDER COAT WHITE (4.3.5.2) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL UNMARKED SHARP EDGES 0.005 TO 0.010
- 6) IDENTIFY WITH DART P/N USING FINE POINT PERMANENT INK MARKER

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**DART**

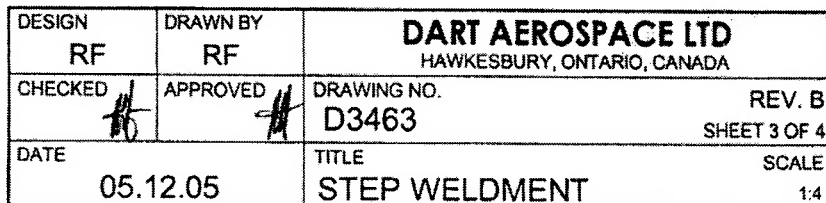
|                               |                                |  |                        |
|-------------------------------|--------------------------------|--|------------------------|
| DESIGN<br>RF                  | DRAWN BY<br>RF                 | <b>DART AEROSPACE LTD</b><br>HAWKESBURY, ONTARIO, CANADA |                        |
| CHECKED<br><i>[Signature]</i> | APPROVED<br><i>[Signature]</i> | DRAWING NO.<br><b>D3463</b>                              | REV. B<br>SHEET 2 OF 4 |
| DATE<br><b>05.12.05</b>       | TITLE<br><b>STEP WELDMENT</b>  |  | SCALE<br>1:4           |

**RELEASED**05.12.04 *[Signature]***D3463-1 ARM****NOTES:**

- 1) MATERIAL: AISI 316/304 SS SEAMLESS TUBING (REF. DART SPEC. M304TR1.000W.120)
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL UNMARKED SHARP EDGES 0.005 TO 0.025

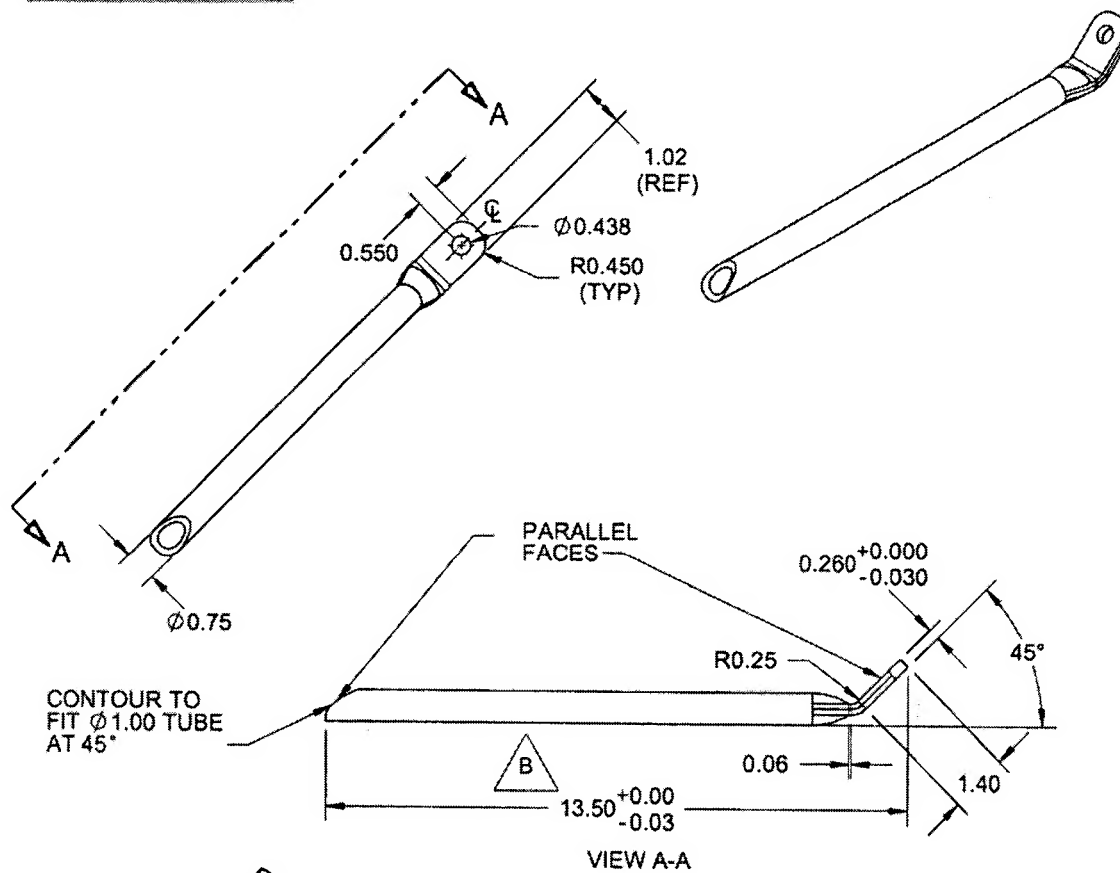
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RELEASED

05.12.09



**D3463-7 DRAG ARM**

**NOTES:**

- 1) MATERIAL: AISI 316/304 SS SEAMLESS TUBING (REF. DART SPEC. M304TR0.750W.120)  
2) FINISH: NONE  
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED  
4) ALL DIMENSIONS ARE IN INCHES  
5) BREAK ALL UNMARKED SHARP EDGES 0.005 TO 0.010

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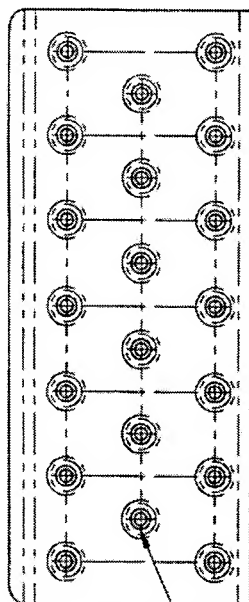
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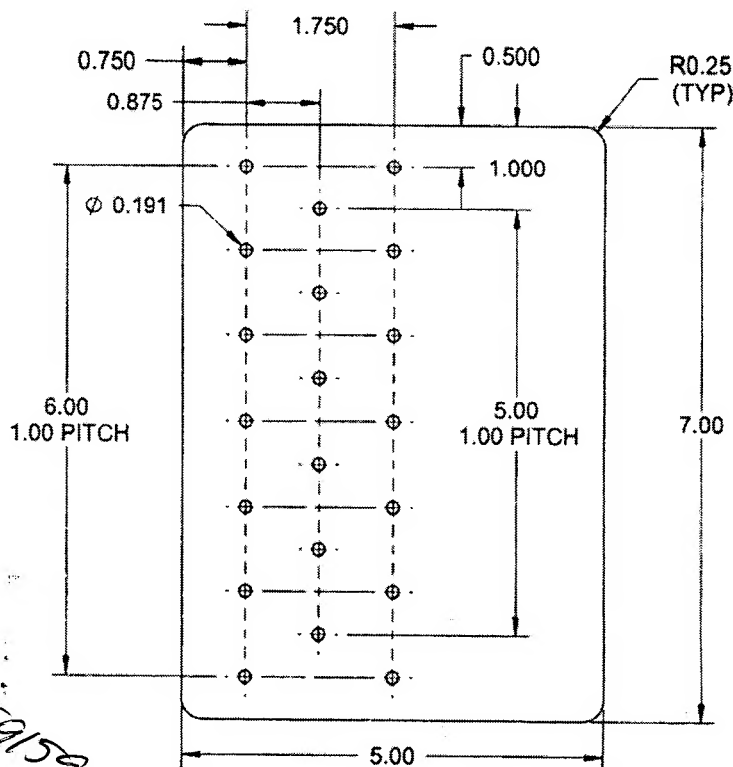
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|------------------|------------------------|---|------------------------|
| DESIGN<br>RF     | DRAWN BY<br>RF         | DART AEROSPACE LTD<br>HAWKESBURY, ONTARIO, CANADA |                        |
| CHECKED<br>#     | APPROVED<br>#          | DRAWING NO.<br>D3463                              | REV. B<br>SHEET 4 OF 4 |
| DATE<br>05.12.05 | TITLE<br>STEP WELDMENT |   | SCALE<br>1:2           |

RELEASED

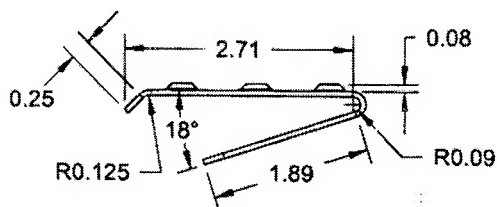
05.12.09 #



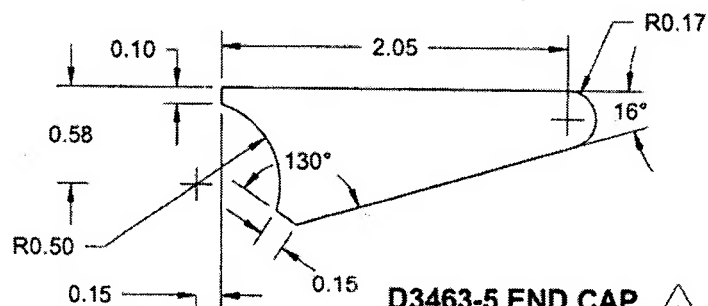
FORM USING  
D3463-3T1



**D3463-3F FLAT PATTERN**



**D3463-3 STEP**



**D3463-5 END CAP**  
SCALE 1:1



**NOTES:**

- 1) MATERIAL: AISI 304/316 SS SHEET, 0.060 THICK (REF. DART SPEC. M304S16GA)
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL UNMARKED SHARP EDGES 0.005 TO 0.010

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